



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,708	09/08/2003	Yao-Hwan Kao	67,200-1093	2305

7590 06/15/2007
TUNG & ASSOCIATES
Suite 120
838 W. Long Lake Road
Bloomfield Hills, MI 48302

EXAMINER

STINSON, FRANKIE L

ART UNIT	PAPER NUMBER
----------	--------------

1746

MAIL DATE	DELIVERY MODE
-----------	---------------

06/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/658,708

Applicant(s)

KAO ET AL.

Examiner

FRANKIE L. STINSON

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7, 8, 11, 12 and 21-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 8, 11, 12 and 21-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

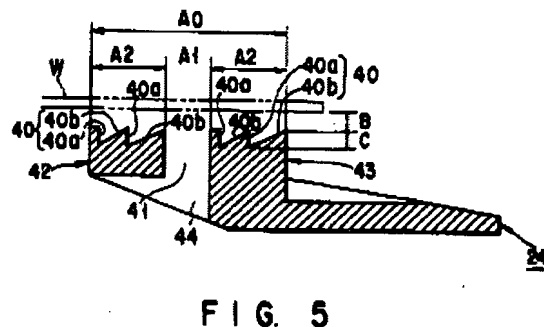
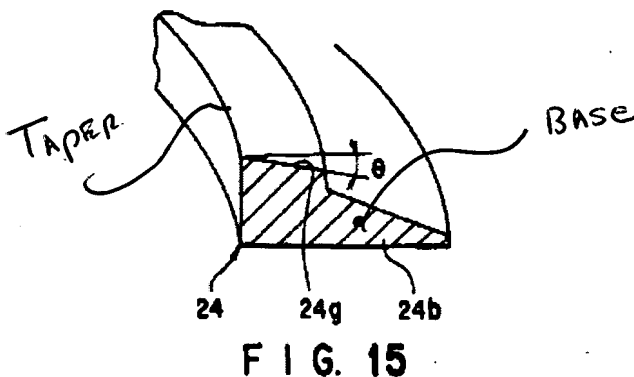
2. Claims 1-4, 7, 8, 11, 12 and 21-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (U. S. Pat. No. 5,689,749) in view of Japan'514 (Japan. 7-45514).

Re claims 1, 11, 21, 23, 25 and 28, Tanaka is cited disclosing an apparatus for dispensing a liquid onto a substrate frontside and backside during a development process during said development process to improve a rinsing step, comprising:

a support (21) for receiving the substrate;

a dispensing head (23) for dispensing the liquid onto the substrate;

a knife ring (24, see figs. 5 or 15) having a base and a tapered edge



Art Unit: 1746

comprising an upper edge of said knife ring extending from said base, said knife ring vertically adjustably mounted (see col. 9, lines 15-27) beneath said support to position said knife ring upper edge adjacent said substrate backside; and

a plurality/pair of independently-actuated vertical adjustment mechanisms (24h, see fig. 3) operably engaging said base of said knife ring for placing said knife ring upper edge at selected vertical positions adjacent said substrate backside, wherein said vertical positions are selectable from a position facilitating position facilitating flow (fig. 9B, 17D) of liquid between said knife ring upper edge and said substrate backside and a position substantially preventing flow (fig. 9A, 17A) of liquid between said knife upper edge and said substrate backside differs from the claims only in the recitation of the plurality/pair of independent adjustment being automatically actuated during the development process and to adjustably control the liquid flow backside during the development step. To have the ring adjusted is deemed to be of little patentable weight in that it is old and well known to employ automatic mechanism to in place of manual actuation, for the purpose of removing active human involvement arrangements

(see MPEP 2144.04, III. **AUTOMATING A MANUAL ACTIVITY** In re Venner, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958) (Appellant argued that claims to a permanent mold casting apparatus for molding trunk pistons were allowable over the prior art because the claimed invention combined “old permanent-mold structures together with a timer and solenoid which automatically actuates the known pressure valve system to release the inner core after a predetermined time has elapsed.” The court held that broadly providing an automatic or mechanical means to replace a manual activity which accomplished the same result is not sufficient to distinguish over the prior art.).

3. Nonetheless, Japan'514 is cited disclosing the automatic adjustment for adjusting a knife ring during the development process as claimed. It would therefore would have been obvious to one having ordinary skill in the art to modify the device of Tanaka, to have the ring adjusted automatically during the treatment process as taught by Japan'514, for the purpose of removing active human involvement and for decreasing down time of the processing equipment for ring adjustment. As for the plurality/pair of automatic means, this has been deemed to be a mere duplication of parts (MPEP 2144.04 REVERSAL, DUPLICATION OR RE-ARRANGEMENT OF PARTS). In regard to adjustably control the flow of liquid on the backside, it is the examiner's position that given the control means in Japan'514, the same would be inherent. Re claims 2, 7, 29 and 30, no patentable distinction is deemed to exist between the fluid actuated cylinder as claimed and the elevating mechanism (24) in Japan'514. The fluid actuated cylinder, is deemed to be an obvious matter of design (see MPEP 2144.06 SUBSTITUTING EQUIVALENTS KNOWN FOR THE SAME PURPOSE). Re claims 3, 8, 12 and 31, no patentable distinction is deemed to exist between the diameter of 290mm as claimed and the 203.2mm (8 inch, col. 7, line 51) in the Tanaka. This is also applicable to the distance of the gap as claimed in claims 22, 24, 26 and 27. Re claim 4, the Tanaka and Japan'514 are cited as applied to the subject matter of claim 2 above. As for Tanaka not disclosing a plurality of independently-actuated automatically vertical adjustment mechanism, while not automatic, Tanaka does in fact disclose a plurality of independently-actuated vertical adjustment mechanisms (24h). To have the same automatically adjusted it of little patent weight in that it is old and well known to

automate various mechanical operations, to save time, to be more precise, save lives or to remove active human involvement among others

4. Applicant's arguments filed April 25, 2007 have been fully considered but they are not persuasive. In regard to the remarks on the Tanaka reference, namely that the same fails to disclose the adjustment during the development process, please note Japan'514 inherently teaches this limitation. In regard to the remark that Tanaka fails to disclose the knife having a tapered edge, attention is directed to Tanaka's figs. 5 and 15 as annotated above. Note "taper", as defined in Dictionary .COM to become smaller and thinner on one end. . As for the operation of Tanaka, being destroyed by allowing the liquid to flow past the ring, it has been noted that the argument is more limiting than the claimed. The liquid is allowed to flow on the backside of the wafer. No claim has been made to the fluid flowing past, knife ring only to adjustably control the flow, which is deemed to be inherent in Japan'514. **However, favorable consideration would be given to such a limitation.**

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

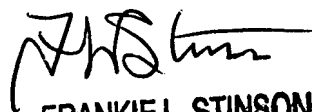
Art Unit: 1746

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANKIE L. STINSON whose telephone number is (571) 272-1308. The examiner can normally be reached on M-F from 5:30 am to 2:00 pm and some Saturdays from approximately 5:30 am to 11:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr, can be reached on (571) 272-1700. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


FRANKIE L. STINSON
PRIMARY EXAMINER
ART UNIT 1700